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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,573

07/31/2003

Andrew Roman Gizara

1572

37598

7590

12/02/2004

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EXAMINER

RILEY, SHAWN

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/604,573		GIZARA, ANDREW ROMAN	
	<b>Examiner</b>		<b>Art Unit</b>	
	Shawn Riley		2838	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on july 2003 filing.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-21 is/are allowed.
- 6) ☒ Claim(s) 1-3,7,8 and 14 is/are rejected.
- 7) ☒ Claim(s) 4-6, 9-13,15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

Applicant(s) is(are) reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of **50 to 150** words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as “**comprising**”, “means”, and “**said**,” should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

Claim 15 is objected to under 37 C.F.R. 1.75(a) because of the following informalities: the dependency of claim 15 is not clear, for examination purposes it is seen to depend on claim 9. (note that reference to multiple claims is not proper for at least the reason that claims change scope/deleted/(unclear dependencies)/etc.)

Claims 1-21 are objected to under 37 C.F.R. 1.75(a) because of the following informalities: the claims are written in improper legal format, e.g., (use of colons and semicolons). Appropriate correction is required. The amount of improper language used throughout the claims is extensive and revision is required to overcome this objection. Applicant(s) is(are) required to revise **ALL** of the claims **COMPLETELY**.

***Claim Rejections - 35 U.S.C. § 103***

1. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2. Claims 1, 2, 8, and 14 are rejected under 35 U.S.C. § 103 as being unpatentable over Rozsypal (U.S. Patent 6,781,353) in view of Masaki (U.S. Patent 4,988,923). The Rozsypal reference discloses the limitations of the invention as claimed including: An integrated circuit package comprising, a semiconductor die of plural separate power supply voltage domains (e.g.,  $V_{BATT}/V_{OUT}/V_{REF}$  etc.); a switch mode DC-to-DC converter (see, e.g, figure 2 element 104) including at least: a power switching transistor ( $S_1/S_2$ ), and an output voltage fixing circuit (control circuit of comprising 250/230/221/246/etc.). However, Rozsypal does not show an inductor having a core. Masaki shows (see Figure 8) an inductor having a core. It would have been obvious at the time the invention was made to utilize an inductor having a core of Masaki into the circuit of Rozsypal for the reason of a design choice wherein the use of an inductance is commonly used to change the overall impedance of a system to change the charging/discharging time of energy

Art Unit: 2838

stored therein. See for example figure 8 of Masaki wherein the designer contemplates which type of inductance (with/without a core) would be most beneficial overall to the circuit. See column 3 line 29-38 of Masaki.

As to claim 2;

The integrated circuit package of claim 1 wherein said semiconductor die comprises a voltage reference ( $V_{REF}$ ), coupled to an error amplifier (247), and a voltage comparator (220), for use in the feedback loop ( $V_{OUT}$ ) of the output voltage DC-to-DC converter fixing circuit of said DC-to-DC converter.

As to claim 8 and likewise 14,

the Rozsypal and Masaki reference disclose the limitations of the invention as claimed as described above. However, Rozsypal and Masaki do not show a substrate of fiberglass resin epoxy of type FR4 based laminate material for mounting said DC-to-DC Converter components. It would have been obvious at the time the invention was made to utilize the a substrate of fiberglass resin epoxy of type FR4 based laminate material for mounting said DC-to-DC Converter components into the circuit of Rozsypal and Masaki since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

***Claim Rejections - 35 U.S.C. § 103***

3. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

4. Claims 3 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over Rozsypal in view of Masaki (U.S. Patent ) in light of Ito et al. (U.S. Patent 6,683,767). The Rozsypal and Masaki reference disclose the limitations of the invention as claimed as described above. However, Rozsypal and Masaki do not show a bandgap reference circuit to produce the reference voltage ( $V_{REF}$ ). Ito et al. shows (see Figure 29) a band-gap reference. It would have been obvious at the time the invention was made to utilize the a band-gap reference of Ito et al. into the circuit of Rozsypal and Masaki for the reason of supplying a reference voltage with a well controlled output voltage value. See column 16 line 5-27 of Ito et al.

Further, as to claim 7 the Rozsypal and Masaki reference disclose the limitations of the invention as claimed as described above. However, Rozsypal and Masaki do not show a charge pump circuit. Ito et al. shows (see Figure 25) a charge pump. It would have been obvious at the time the invention was made to utilize the charge pump of Ito et al. into the circuit of Rozsypal

Art Unit: 2838

and Masaki for the reason of supplying a bias voltages to drive an output signal. See column 14 line 22-46 of Ito et al.

*Allowable Subject Matter*

5. Claims 4-6, and 9-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims further, claim 15 would be allowable if dependent on claim 9 and not simultaneously on two claims.

6. Claims 16-21 are allowable over the prior art of record.

7. As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 C.F.R. § 1.111(b) and section 707.07(a) of the M.P.E.P.

8. The following is an examiner's statement of reasons for allowance: No prior art uncovered anticipates or renders obvious applicant(s) claimed integrated circuit as claimed including a semiconductor die having a decoder that compares an entry from a table corresponding to the present power state of said semiconductor die to a clock counter frequency divider output to determine duty cycle and/or switching frequency of said power switching transistor for said output voltage fixing circuit.

Further, no prior art uncovered anticipates or renders obvious applicant(s) claimed integrated circuit as claimed including semiconductor die containing a plurality of pads from which to accept a binary number offset for fine tuning the duty cycle and/or switching frequency



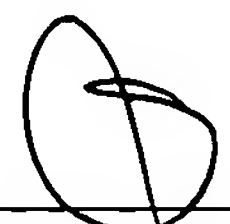
Art Unit: 2838

by modifying the value compared to the clock counter frequency divider in said output voltage fixing circuit of said DC-to-DC converter or where the gate driving signal output from said semiconductor die is connected through a trimmed delay circuit to fine tune the duty cycle of pulse width modulator or pulse frequency modulator of the output voltage fixing circuit of said DC-to-DC converter.

### *Conclusion*

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Mike Sherry who can be reached at 571.272.2084. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number 703.872.9306. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

November 04

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*Shawn Riley*  
*Primary Examiner*